

CLAIMS

What is claimed is:

1. A grain delivery conveyor for a grain tank of an agricultural combine, comprising:
 - a first gear box including a first input connectable in rotatably driven relation to a rotatable power source for rotation about a first axis, and a first output rotatable about a second axis angularly related to the first axis by rotation of the first rotatable input;
 - a second gear box including a second rotatable input connected in rotatably driven relation to the first output for rotation about the second axis, and a second output rotatably driveable about a third axis angularly related to the second axis by rotation of the second rotatable input; and
 - an elongate conveyor assembly including a rotatable element having first end connected in rotatably driven relation to the second output and a longitudinally opposite free end, the rotatable element being at least partially contained within a longitudinally extending housing, the rotatable element and the housing being jointly pivotable about the second axis for varying a position of the free end relative to the grain tank between at least a first position at a low elevation close to a floor of the grain tank and a second position at a higher elevation in the grain tank.
2. The conveyor of claim 1, wherein the first gear box, second gear box, and the conveyor assembly are jointly pivotable about the first axis for varying a position of the free end relative to the grain tank.
3. The conveyor of claim 1, wherein the housing includes an inlet opening disposed above the first end of the rotatable element and at least one grain shield extending upwardly relative to the inlet opening for guiding grain flow into the inlet opening.

4. The conveyor of claim 1, wherein the rotatable element comprises an auger.
5. The conveyor of claim 1, wherein the second axis is oriented at about a right angle to the first axis.
6. The conveyor of claim 5, wherein the third axis is oriented at about a right angle to the second axis.
7. A grain delivery conveyor for a grain tank of an agricultural combine, comprising:
 - a first gear box including a first rotatable input and a first rotatable output oriented at about a right angle to the first rotatable input, the first rotatable input being connectable in rotatably driven relation to a rotatable power source for rotatably driving the first rotatable output;
 - a second gear box including a second rotatable input and a second rotatable output oriented at about a right angle to the second rotatable input, the second rotatable input being connected in rotatably driven relation to the first output, the second gear box being pivotable relative to the first gear box about a joint axis of rotation of the first output and the second input; and
 - an elongate conveyor assembly including an elongate rotatable element extending through an elongate housing and having first end connected in rotatably driven relation to the second output and a longitudinally opposite free end, the rotatable element being rotatable within the housing for conveying grain therethrough from the first end to the free end for discharge from the housing, and the rotatable element and the housing being pivotable with the second gearbox about the joint axis of rotation of the first output and the second input for varying a position of the free end of the rotatable element in the grain tank.

8. The conveyor of claim 7, wherein the first gear box, second gear box, and the conveyor assembly are jointly pivotable about an axis of rotation of the first input of the first gear box for further varying a position of the free end of the rotatable element in the grain tank.
9. The conveyor of claim 8, wherein the second gear box and the conveyor assembly are pivotable about the joint axis of rotation of the first output and the second input for varying the position of the free end of the rotatable element generally vertically in the grain tank and the first gear box, second gear box, and the conveyor assembly are jointly pivotable about the axis of rotation of the first input of the first gear box for varying the position of the free end of the rotatable element generally horizontally in the grain tank.
10. The conveyor of claim 9, wherein the joint axis of rotation of the first output and the second input is oriented at about a right angle to the axis of rotation of the first input.
11. The conveyor of claim 7, wherein the rotatable element comprises an auger.
12. A variably angularly inclinable grain delivery auger for a grain tank of an agricultural combine, comprising:
 - a first gear box including a first input connectable in rotatably driven relation to a rotatable power source for rotation about a first axis, and a first output rotatable about a second axis oriented at about a right angle to the first axis by rotation of the first rotatable input;
 - a second gear box including a second rotatable input connected in rotatably driven relation to the first output for rotation about the second axis,

and a second output rotatably driveable about a third axis oriented at about a right angle to the second axis by rotation of the second rotatable input; and

an auger assembly including an elongate auger having a first end connected in rotatably driven relation to the second output and a longitudinally opposite free end, the auger being at least partially contained within a longitudinally extending housing, the auger assembly being jointly pivotable about the second axis, and the gear boxes and the auger assembly being jointly pivotable about the first axis, for varying a position of the free end of the auger relative to the grain tank between at least a first position at a low elevation close to a floor of the grain tank and a second position at a higher elevation in the grain tank.